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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,116

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Thomas Schlegl

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07/02/2010

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EXAMINER

PARVINI, PEGAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,116	Applicant(s) SCHLEGL ET AL.	
	Examiner PEGAH PARVINI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 25-42 is/are pending in the application.
- 4a) Of the above claim(s) 16-22, 41 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 25-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is in response to amendment filed April 16, 2010. After entry of this amendment, claims 1-22 and 25-42 are currently pending in this application with claims 16-22 and 40-42 being withdrawn from further examination.

To properly address the dependency of claim 37, instant action is made Non-Final.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-15 and 25-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no adequate description for Figures 1a and 1b; thus, the limitation directed to “cumulative breakthrough curve of a scanning electron microscope thickness

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count” is not clear because it is found in Figures 1a and 1b. However, the specification does not provide a description for said figures.

Claims 2-15 and 25-39 are considered rejected based on depending on rejected claim 1.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 and 25-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Part “b” of claim 1 is not clear especially the section of “and the h_{50} value as determined from the cumulative breakthrough curve of a scanning electron microscope thickness count”; “cumulative breakthrough curve” is found in Figures 1a and 1b, but the specification does not provide a description for said figures. Therefore, the rejection is maintained.

Claims 2-15 and 25-39 are considered rejected based on depending on rejected claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 14-15, 26-30, 35-36, and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-082258 to Katsuhiro et al.

Because said reference is in Japanese, references have been made to paragraphs of the equivalent English translation of said document which is EP-1621586 for convenience.

Regarding claims 1-8, Katsuhiro et al. disclose an aluminum flake pigment having excellent metallic luster, fine-grainedness and other advantages in which has an average thickness in the range of 0.025 μm (i.e. 25 nm) to 0.08 μm (i.e. 80 nm) and an average particle diameter (D_{50}) in the range of 8 μm to 30 μm (Abstract; [0008], [0017]-[0018], [0022]). This would result in an aspect ratio (i.e. d_{50}/h) of from 320 to 1200 which more than the aspect ratio of 200 which is claimed.

The reference clearly discloses that the pigment is obtained by grinding aluminum powder in an organic solvent in which the wet-grinding aluminum powder is prepared by an atomized method with a ball mill or the like (Abstract; [0012]). The reference, further, disclose the use of grinding assistant such as stearic acid or oleic acid (i.e. lubricant) ([0033]).

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It is to be noted that there is substantially overlapping ranges of thickness and aspect ratio with the ones instantly claimed, and overlapping ranges have been held to establish *prima facie* obviousness. MPEP § 2144.05.

It is to be noted that since the aluminum is grinded in a ball mill or similar mill using a grinding assistant such as a lubricant such as stearic acid or oleic acid, it is clear that said lubricant would be in touch with aluminum and “at least partially” coat the aluminum flakes absence clear evidence proving the contrary.

With reference to water coverage of 40,000 to 130,000 cm²/g, relative width of the distribution of thickness, and roughness as calculated from the surface area and water coverage, it is to be noted that considering the fact that the reference discloses aluminum flake pigment which is expected to “at least partially” be coated with the lubricant which is used in grinding and wherein said pigment has substantially overlapping ranges of thickness and aspect ratio as that recited in instant claim, and specially considering the fact that the disclosed process by the reference is substantially similar to the one disclosed in instant application, the above mentioned characteristics (i.e. water coverage, relative width distribution, roughness value as calculated from water coverage and surface area) are expected to follow from the composition/product of the instant reference absence clear and specific evidence showing the contrary.

Regarding claim 9, Katsuhiro et al. disclose paint and ink compositions having said aluminum flake pigment; the reference, further, discloses that the solvent used for those compositions may be water and if so, the aluminum flake pigment is covered with

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a resin composition or a phosphoric compound ([0041]). It is to be noted that "phosphoric compound" is taken to broadly read on the limitation of instant claim 9 specially with reference to phosphoric acid ester as phosphoric acid ester is a phosphoric compound. This is taken to read on the instant limitation of the pigment being "at least partially" coated with a phosphoric acid ester.

Regarding claim 14, it is to be noted that the "aluminum pigment has been oxidized by water in an aqueous chemical process and said aluminum pigment has modified color" are process limitations in a product claim; thus, they do not add patentable weight to the examination of the product claim.

Regarding claims 15, 26-30, 35-36, and 39, Katsuhiro et al. disclose an aluminum paste containing the aluminum flake pigment or the aluminum flake pigment is sufficiently cleaned and dried for obtaining aluminum powder ([0060]). The aluminum of Katsuhiro et al. is used in water-based paint compositions and inks compositions ([0041], [0045]-[0046]). It is to be noted that paint is a type of coating.

Regarding claim 38, the fact that the reference is silent to the aluminum pigment being a dusting pigment makes it clear that it is a non-dusting pigment.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuhiro et al. as applied to claim 1 above, and further in view of U.S. Patent No. 5,474,605 to Schmid et al.

Although Katsuhiro et al. do not expressly and literally disclose that the phosphoric compound may act as a passivating inhibitor or anti-corrosion, it should be noted that said reference clearly disclose the use of phosphoric compound. Thus, the passivating effect or anti-corrosion effect is expected to follow from said compound specially motivated by the fact that phosphorous compounds are known to impart passivation and prevent corrosion as that taught by Schmid et al. (column 1, lines 59-65; column 2, lines 50-53 and 60-67).

It is to be noted that Schmid et al. is drawn to aluminum flakes obtained by conventional atomization or milling techniques (column 2, lines 5-10). Additionally, the combination of the two references is further motivated by the fact that Schmid et al. clearly disclose that in order to prevent metallic pigments such as aluminum flakes of undergoing an exothermic reaction with water, which in some cases, cause destruction of the pigments, it is desired to passivate the metallic pigment such as aluminum flakes (column 1, lines 15-50).

It should be noted that Schmid et al. product is also used in water-based printing inks, other inks, and paints (Abstract).

Claims 12-13 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuhiro et al. as applied to claim 1 above, and further in view of Schmid et al. and U.S. Patent Application Publication No. 2002/0169244 to Ostertag et al.

Regarding claims 12-13, Katsuhiro et al., as detailed above, disclose aluminum flake pigments partially coated with a lubricant in which the pigments have overlapping ranges of thickness and aspect ratio with the ones instantly claimed. Katsuhiro et al., although disclose the use of phosphoric compounds which have passivating characteristic, do not expressly disclose the coating the pigments with compound such as chromium oxide, silicon oxide, zirconium oxide, etc. to impart passivating anticorrosive protection layer.

However, Ostertag et al., drawn to metallic pigments such as iron oxide disclose forming a passivating layer onto said pigment using silicon oxide, zirconium oxide, aluminum oxide/hydroxide, phosphate, phosphate, chromium oxide, borate or mixtures of the same (claim 6) to form a passivating anticorrosive layer onto the pigments. It is to be noted that the motivation for doing so would be the fact that as disclosed by Schmid et al., surface of metallic pigments would go through exothermic reaction and cause destruction to the pigment, but the anticorrosive passivating layer would prevent that (Schmid et al. column 1, lines 15-25).

Furthermore, it is to be noted that although Ostertag et al. is using iron effect pigments, said pigment is a metallic pigment as disclosed by the reference and Schmid et al. is broadly drawn to metallic pigments.

Regarding claim 37, it is to be noted that Schmid et al. disclose silicon compound such as silanes of the formula I, found in column 2, line 66 to column 3, line 33 of said reference to be used in coating aluminum flake to prevent them from corrosion. It is to be noted that Schmid et al. is drawn to aluminum flakes obtained by conventional atomization or milling techniques (column 2, lines 5-10). Furthermore, Ostertag et al., drawn to metallic pigments such as iron oxide disclose forming a passivating layer onto said pigment using silicon oxide, zirconium oxide, aluminum oxide/hydroxide, phosphate, phosphate, chromium oxide, borate or mixtures of the same (claim 6) to form a passivating anticorrosive layer onto the pigments. Additionally, the combination of Katsuhiro et al., Ostertag et al., and Schmid et al. is motivated by the fact that Schmid et al. clearly disclose that in order to prevent metallic pigments such as aluminum flakes of undergoing an exothermic reaction with water, which in some cases, cause destruction of the pigments, it is desired to passivate the metallic pigment such as aluminum flakes (column 1, lines 15-50).

Claims 25 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuhiro et al. as applied to claim 1 above, and further in view of U.S. Patent No. 3,776,473 to Casey et al.

Katsuhiro et al., as detailed above, disclose aluminum flake pigments partially coated with a lubricant in which the pigments have overlapping ranges of thickness and aspect ratio with the ones instantly claimed.

Although Katsuhiro et al. disclose the use of their aluminum pigment in paints or ink, they do not expressly disclose of aluminum flake pigments in cosmetics, security printing inks, plastics, ceramics, nail polish etc.

However, the use of aluminum flake pigments in cosmetics, security printing inks, plastics, ceramics, nail polish, etc. would be known to a skilled artisan motivated by the fact that Casey et al., drawn to aluminum flake pigments produced by wet ball milling aluminum powder in the presence of a lubricant (Abstract), disclose that aluminum pigments have many utilities such as in cosmetics, security printing inks, plastics, ceramics, nail polish, etc. (column 6, lines 33-46).

Response to Arguments

Applicants' arguments, see page 9, filed April 16, 2010, with respect to the 112-second paragraph rejection regarding "the h_{50} value" and roughness have been fully considered and are persuasive. The 112-second paragraph rejection of claims, regarding "the h_{50} value" and roughness, has been withdrawn.

Applicants' arguments filed April 16, 2010 have been fully considered but they are not persuasive.

Applicants have argued that the rejection made to claim 1 under 112-second paragraph due to the recitation of " h_{50} value as determined from the cumulative breakthrough curve of a scanning electron microscope thickness count" is perfectly

clear and readily understood by one having at least an ordinary level of skill in the art since curves shown in Figures 1a and 1b are standard curves.

The Examiner, respectfully, submits that the specification does not provide a description for the figures. In fact, the only place that the specification refers to Figure 1 (either 'a' or 'b') is in the Examples, (paragraph [0133] of the publication) where the applicants disclose that the curves (i.e. Fig. 1a and Fig. 1b) are made according to the present invention; therefore, they cannot be considered as curves known in the art or standard.

Applicants have argued that aluminum pigments as presently claimed have superior optical properties similar to PVD pigments, and they argue that this is due to their narrow thickness distribution because of the disclosure in paragraph [0041] of the publication. They, further, argue that paragraphs [0041]-[0042] are a proof that "water coverage" feature is not an arbitrary value but rather it represents an essential feature which has significant influence on the optical properties of applicants' pigments.

The Examiner, respectfully, submits that paragraph [0041] of the publication does not disclose that the thin thickness, as applicants argue, is the cause of superior optical properties. It discloses that "aluminum pigments" are surprisingly very thin, and that "The aluminum pigments of the invention are surprisingly similar in their optical properties to the PVD pigments". Furthermore, paragraph [0042] of the publication does not indicate that the "water coverage" is related to optical properties; nevertheless, applicants argue that their pigments have superior optical properties, but they fail to

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submit tangible evidence proving it. Also, no evidence has been provided to show that Katsuhiro et al. is not going to impart such “superior properties” even though it disclose an overlapping ranges of thickness for aluminum flake pigments and more as detailed out above. Paragraph [0042], as disclosed, indicates that “DIN 55923 specifies a procedure for the measurement of the water coverage”.

Applicants have argued that the roughness of the pigments according to the present application is also correlated with the narrow distribution of thickness, and that this is evident from the formula set forth in claim 1, as well as in paragraph [0055] of the published application wherein the value of the water coverage is in the denominator.

The Examiner, respectfully, submits that applicants seem to be arguing that “h₅₀” reflects “water coverage” since it is the term in the denominator of formula presented in claim 1; however, (1) the letter 'h' is generally used to refer to thickness values, and (2) no where in claim 1, “h₅₀” is referred to as “water coverage”. Furthermore, even assuming arguendo that water coverage is in the denominator as argued by Applicants, Meaning that “h₅₀” reflects “water coverage”, then thickness and water coverage are related, as also argued by Applicants; in that case, while the reference discloses an overlapping range of thickness compared to what is instantly claimed, then the water coverage value, whatever it could be, would have and should have overlapping ranges with what applicants consider as water coverage value. In fact, in that case, based on Applicants' own arguments, the pigment of the reference would have and, in fact, should have the same optical properties as the pigment instantly claimed since it has

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overlapping ranges of thickness and applicants have argued that thickness and water coverage are related based on the formula in claim1, and that water coverage is the value in the denominator of the formula.

Applicants are suggested to submits tangible evidence to prove that the pigment of the prior art can not have the characteristics of the claimed invention.

In response to Applicants' arguments against the references individually such as Schmid et al., Ostertag et al., and Casey et al., one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Furthermore, it is to be noted that said references were used to address certain limitations in dependent claims, and Katsuriho et al., as detailed above, had been used to address the limitation of claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pegah Parvini/
Examiner, Art Unit 1793

/Anthony J Green/
Primary Examiner, Art Unit 1793